

⑩



Europäisches Patentamt  
European Patent Office  
Office européen des brevets

⑪ Publication number:

**0 247 031  
B1**

⑫

## EUROPEAN PATENT SPECIFICATION

⑬ Date of publication of patent specification: 28.03.90

⑭ Int. Cl.<sup>5</sup>: B 65 D 33/16, B 65 D 33/20

⑮ Application number: 85905476.9

⑯ Date of filing: 22.10.85

⑰ International application number:  
PCT/US85/02089

⑱ International publication number:  
WO 87/02645 07.05.87 Gazette 87/10

### ② CONTAINER WITH RESEALABLE SEALING DEVICE.

① Date of publication of application:  
02.12.87 Bulletin 87/49

④ Publication of the grant of the patent:  
28.03.90 Bulletin 90/13

③ Designated Contracting States:  
BE FR IT

⑥ References cited:  
US-A-1 944 621  
US-A-1 997 378  
US-A-2 719 683  
US-A-2 896 839  
US-A-3 687 352  
US-A-3 711 011  
US-A-4 192 420  
US-A-4 260 061

⑦ Proprietor: CHANG, Sung-Chol  
45 Morris Avenue  
Haworth, New Jersey 07641 (US)

⑧ Inventor: CHANG, Sung-Chol  
45 Morris Avenue  
Haworth, New Jersey 07641 (US)

⑨ Representative: Carpmael, John William  
Maurice et al  
CARPMAELS & RANSFORD 43 Bloomsbury  
Square  
London, WC1A 2RA (GB)

**EP 0 247 031 B1**

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European patent convention).

Courier Press, Leamington Spa, England.

## Description

## Technical Field

The invention relates generally to small, flexible containers having sealing devices which may be resealed after having been opened, such as are frequently used for containing plural articles intended to be sequentially extracted from the container and requiring continuous protection prior to their use, e.g. paper tissues, moist towelettes, and the like.

## Background Art

It is often necessary to provide an inexpensive container in which the contents of the container are protected by a trouble-free reusable seal, so that such contents, for example, paper tissues, moist towelettes, and the like, can be extracted one at a time from the container upon opening of the seal and so that after the seal has been reclosed the remaining contents of the container will be protected as before. One basic form of container of this type, which is well known, is made of a rectangular sheet of thin foil or plastics material having two side regions folded over toward one another so as to overlap slightly. The overlapped margins of the folded-over side regions of the sheet are heat-sealed to each other to provide a longitudinal seam at the middle of one side (the rear side) of the container, and at each end of the sheet the margins of the folded-over side regions are heat-sealed to the adjacent end margin of the unfolded portion of the sheet that defines the other side (the front side) of the container. In its front side the container has an opening through which the contents of the container can be extracted. The opening is normally covered and closed by a flap, preferably made of the same or a similar material as the container body, which is permanently secured at one end to the outer surface of the portion of the sheet defining the front side of the container and has its sheet-engaging face coated with a suitable non-hardening pressure-sensitive adhesive. In order to prevent the adhesive from coming into contact with the contents of the container, a separate non-adhesive member, which is smaller than the flap but either of the same shape and size as the opening or of generally the same shape as but somewhat larger than the opening, is adhered to the coated face of the flap in a position such that when the flap is closed the said non-adhesive member overlies the entire expanse of the opening. Representative constructions of such a container are shown in U.S. Patent No. 4,420,080.

## Disclosure of the Invention

A primary problem which has arisen with the aforesaid known containers is that the end region of the closure flap which is secured to the front side of the container may be torn from the latter when the flap is pulled up to open the container. A secondary problem which has arisen is that, by virtue of the frequent flexing of the flap during opening and closing of the container, the non-

adhesive member may shift its position on the flap or even become separated therefrom and thus fail to properly and fully overlie the opening in the front side of the container when the flap is closed.

The aforesaid primary problem is overcome by a container which has a front side including an opening to provide access to the contents of the container and a resealable sealing device for the opening, wherein the sealing device includes a closure flap which is larger than the opening and is secured to the front side of the container at one end region of the flap adjacent one portion of the periphery of the opening for hinging movement about a line of attachment so as to be able to overlie the opening, with the face of the flap which is engageable with the front side of the container being coated with a pressure-sensitive adhesive, and wherein the sealing device further includes a non-adhesive member which is smaller than the flap but at least of the same shape and size as the opening, with the non-adhesive member being adhesively secured to the coated face of the flap in a position thereon where the member will completely overlie the opening when the flap is adhered to the front side of the container; which container is characterized in that the flap has a pair of opposing, generally L-shaped cuts formed therein each of which starts at a respective one of the side edges of the flap and has a first portion extending transversely inwardly of the flap intermediate the ends of the latter and continues with a second portion extending generally longitudinally of the flap toward and terminating at the line of attachment, with the two second portions of the L-shaped cuts being spaced from each other by a distance greater than the width of any portion of the non-adhesive member located between the second portions of the cuts, in that the two L-shaped cuts define at the remote sides of the second portions thereof a pair of generally longitudinally extending tabs or fingers constituting respective integral enlargements of the one end region of the flap so as to enhance the anchoring of the flap to the front side of the container, and in that the flap further has a pair of tear prevention holes formed therein which are located on the line of attachment and each at the termination of a respective one of the second portions of the L-shaped cuts, whereby a tearing of the flap beyond the line of attachment and off the container is effectively inhibited.

The aforesaid secondary problem is overcome by a container of the mentioned class which is further characterized in that the non-adhesive member is die-cut in a peninsular form directly out of the front side of the container so as to have a main body portion defining the opening and a tongue portion extending generally longitudinally from the main body portion and having opposite side edges generally parallel to the second portions of the L-shaped cuts and terminating at the uncut end of the tongue portion remote from the main body portion of the non-adhesive member,

with the said uncut end of the tongue portion lying on a second line of attachment substantially coinciding with the first-mentioned line of attachment of the flap, and in that the non-adhesive member has a second pair of tear prevention holes formed in the front side of the container and located on the second line of attachment each at the termination of a respective one of the side edges of the tongue portion of the non-adhesive member, whereby tearing of the latter and the front side of the container beyond the second line of attachment is effectively inhibited.

#### Brief Description of Drawings

Fig. 1 is a perspective view of a container according to the invention, with the container being shown in a closed position.

Fig. 2 is a similar view but with the container being shown in an open position.

Fig. 3 is a top view of the container blank or starting sheet, shown after the die-cutting of the sheet but before the folding thereof and with the sealing flap shown superimposed in dotted lines.

Fig. 4 is an enlarged top view of the sealing flap per se.

#### Best Mode for Carrying Out the Invention

Referring now to the drawings, Figs. 1 and 2 show a container (similar to that illustrated in the aforesaid U.S. Patent No. 4,420,080) in the form of a flexible pouch 10 having on each side an accordion fold 12 (to allow for expansion of the pouch upon insertion of its contents and contraction of the pouch upon withdrawal of its contents) and having on its front side a sealing device 14 including a flap 16 which covers and uncovers an opening 18 through which access may be had to the contents of the container. The flap has its face which is engageable with the front side of the container coated with a layer 28 of pressure-sensitive adhesive, and a non-adhesive member 24, which is smaller than the flap 16 and either is of the same shape and size as the opening 18 or is somewhat larger in shape and size than the opening, is adhesively secured to that face of the flap in a position thereon such that when the flap is closed as in Fig. 1 the member 24 also overlies the opening 18 and prevents the adhesive on the flap from coming into contact with the container contents, e.g. tissues, towlettes, and the like. The flap 16 further has an end region 16a by which it is permanently secured to the front side of the container and at its opposite end has a finger grip 22 which allows the user to lift the flap in order to open the container, with the main body of the flap hinging relative to the end region 16a about a line of attachment (not shown).

In accordance with the basic concept of the present invention, tearing of the flap 16 beyond the line of attachment upon opening of the sealing device 14 is prevented by the provision of a pair of generally L-shaped cuts 19a/19b and an associated pair of tear prevention holes 20 in the flap 16. Each cut (see also Fig. 4) has a first portion 19a starting at a respective side edge of the main

body of the flap and extending transversely inwardly of the flap intermediate the ends of the latter, and a second portion 19b continuing from the innermost end of the respective first portion 19a and extending generally longitudinally of the flap toward and terminating at the line of attachment. The tear prevention holes 20 are formed on the line of attachment and at the terminations of their associated portions 19b of the L-shaped cuts. The transverse spacing between the longitudinal cut portions 19b is somewhat greater than the width of any portion of the non-adhesive member 24 that is located between those portions of the cuts.

As clearly shown, by virtue of the L-shaped cuts the flap 16 has a pair of generally longitudinally extending tabs or fingers 16b defined at the remote sides of the second portions 19b of the cuts, which tabs or fingers are integral enlargements of the end region 16a of the flap. The tabs or fingers 16b serve to enhance the ability of the end region 16a to anchor the flap 16 to the front side of the container 10. It will be understood that in this basic embodiment of the invention, the non-adhesive member 24 of the sealing device 14 may be, although it is not so illustrated in the drawing, a separate member of insular form and having a shape and size which correspond to and are at least the same as the shape and size of the access opening 18, generally as shown in the aforesaid U.S. Patent No. 4,420,080. Such an insular member may, of course, be die-cut directly out of the part of the sheet of which the front side of the container is constituted.

Alternatively, in accordance with a further aspect of the present invention, the non-adhesive member 24 is formed by being die-cut in a peninsular form directly out of the part of the sheet of which the front side of the container 10 is constituted, such that the member 24 has a main body portion 24a and a somewhat narrower tongue portion 24b, the latter extending generally longitudinally from the former and having opposite side edges generally parallel to the second portions 19b of the L-shaped cuts and terminating at the uncut end of the tongue portion 24b remote from the main body portion 24a. The said uncut end of the tongue portion is located at a second line of attachment on the front side of the container which directly underlies and essentially coincides with the previously mentioned line of attachment of the flap 16, and tearing of the member 24 beyond the second line of attachment is prevented by the provision of a second pair of tear prevention holes 26 in the front side of the container on the second line of attachment and at the terminations of the opposite side edges of the tongue portion 24b of the member 24. The member 24 is adhesively secured to the coated face of the flap 16 for joint movement therewith when the flap is moved from its closed position (Fig. 1) to its open position (Fig. 2).

It will be understood that the two sets of tear prevention holes 20 and 26 at the coinciding lines of attachment between, on the one hand, the two

portions of the flap 16 and between, on the other hand, the tongue portion 24b of the member 24 and the front side of the container 10 serve to relieve stresses at those lines, thereby inhibiting tearing of either the flap or the non-adhesive member beyond the respective line of attachment.

For the purpose of making a container 10 of the type shown in Figs. 1 and 2, use is made, as shown in Fig. 3, of a blank 30 of thin flexible sheet material, e.g. paper, plastic, foil or the like, which is cut into a rectangular shape. Accordion folds 12 are formed in the blank, and a peninsular die-cut is made to form simultaneously both the outline of an access opening having a wider main portion and a narrower end portion in the portion of the blank between the accordion folds and a non-adhesive member 24 of corresponding shape which is attached to the blank at the uncut end of the tongue portion 24b of the member remote from the main body portion 24a thereof. At the same time, two inner flap tear prevention holes 26 are die cut into blank 30.

In order to form the container, the sections 30a and 30b of the blank are laid over the back face of the section 30c of the blank with the accordion folds 12 at the sides, the edges 32 and 32a are secured to the edge 40 by a permanent seal, the edges 34 and 34a are secured to the edge 42 by a permanent seal, and the overlapping edges 36 and 38 are secured to each other by a permanent seal. After the container has been so formed, a resealable sealing device 14 is formed by attaching a closure flap 16, the structure of which is as shown in Fig. 4, to the front side of the container in overlying relation to the member 24 with the aid of a layer of pressure-sensitive adhesive, as shown in broken lines in Fig. 3, care being taken to dispose the holes 20 in the flap in line with the holes 26 in the blank 30.

#### Claims

1. A container (10) which has a front side including an opening (18) to provide access to the contents of the container and a resealable sealing device (14) for the opening, wherein the sealing device includes a closure flap (16) which is larger than the opening and is secured to the front side of the container at one end region (16a) of the flap adjacent one portion of the periphery of the opening for hinging movement about a line of attachment between the body of the flap and the said one end region thereof so as to be able to overlie the opening, with the face of the flap which is engageable with the front side of the container being coated with a pressure-sensitive adhesive (28), and wherein the sealing device further includes a non-adhesive member (24) which is smaller than the flap but at least of the same shape and size as the opening, with the non-adhesive member being adhesively secured to the coated face of the flap in a position thereon where the member will completely overlie the opening when the flap is adhered to the front side of the container;

characterized in that the flap has a pair of opposing, generally L-shaped cuts (19a, 19b) formed therein each of which starts at a respective one of the side edges of the flap and has a first portion (19a) extending transversely inwardly of the flap intermediate the ends of the latter and continues with a second portion (19b) continuing from the innermost end of the respective first portion (19a) and extending generally longitudinally of the flap toward and terminating at the line of attachment, with the two second portions of the L-shaped cuts being spaced from each other by a distance greater than the width of any portion of the non-adhesive member located between the second portions of the cuts, in that the two L-shaped cuts define at the remote sides of the second portions thereof a pair of generally longitudinally extending tabs or fingers (16b) constituting respective integral enlargements of the one end region of the flap so as to enhance the anchoring of the flap to the front side of the container, and in that the flap further has a pair of tear prevention holes (20) formed therein which are located on the line of attachment and each at the termination of a respective one of the second portions (19b) of the L-shaped cuts, whereby a tearing of the flap beyond the line of attachment and off the container is effectively inhibited.

2. A container as claimed in claim 1; further characterized in that the non-adhesive member (24) is die-cut in a peninsular form directly out of the front side of the container (10) so as to have a main body portion (24a) defining a major part of the opening and a tongue portion (24b) defining a minor part of the opening, the tongue portion extending generally longitudinally from the main body portion and having opposite side edges generally codirectional with the second portions (19b) of the L-shaped cuts and terminating at the uncut end of the tongue portion (24b) remote from the main body portion (24a) of the non-adhesive member, with the said uncut end of the tongue portion lying on a second line of attachment substantially coinciding with the first-mentioned line of attachment of the flap, and in that the non-adhesive member (24) has a second pair of tear prevention holes (26) formed in the front side of the container and located on the second line of attachment each at the termination of a respective one of the side edges of the tongue portion of the non-adhesive member, whereby tearing of the latter and the front side of the container beyond the second line of attachment is effectively inhibited.

3. A container as claimed in claim 2; further characterized in that the tongue portion (24b) of the non-adhesive member (24) is narrower than the main body portion (24a) of the member.

4. A container as claimed in claim 2; further characterized in that the side edges of the tongue portion (24b) of the non-adhesive member (24) are generally parallel to the second portions (19b) of the L-shaped cuts.

5. A container as claimed in claim 4; further characterized in that the tongue portion (24b) of

the non-adhesive member (24) is narrower than the main body portion (24a) of the member.

#### Patentansprüche

1. Behälter (10) mit einer Oberseite, die eine Öffnung (18), die den Zugriff zum Inhalt des Behälters gewährt und eine wiederverschließbare Verschlussvorrichtung (14) für die Öffnung aufweist, worin die Verschlussvorrichtung eine Verschlusslasche (16) einschließt, die größer als die Öffnung ist und an der Oberseite des Behälters in einem Endbereich (16a) der Lasche befestigt ist, benachbart einem Teil der Peripherie der Öffnung, zwecks Klappbewegung um eine Befestigungslinie zwischen dem Laschenkörper und diesem Endbereich, um die Öffnung zu überdecken, wobei die Unterseite der Lasche, die mit der Oberseite des Behälters in Kontakt gebracht werden kann, mit einem druckempfindlichen Klebstoff (28) überzogen ist und worin die Verschlussvorrichtung weiterhin einen nicht-klebenden Teil (24), der kleiner als die Lasche ist, aber wenigstens dieselbe Form und Größe wie die Öffnung aufweist, einschließt, wobei der nicht-klebende Teil auf die beschichtete Unterseite der Lasche dort geklebt ist, wo dieser Teil die Öffnung vollkommen überdeckt, wenn die Lasche auf der Oberseite des Behälters geklebt ist;

dadurch gekennzeichnet, daß die Lasche ein Paar gegenüberliegende, im allgemeinen L-förmige Einschnitte (19a, 19b), die darin geformt sind, aufweist, wobei jeder an jeweils einer Seitenkante der Lasche beginnt und einen ersten Abschnitt (19a) aufweist, der quer nach innen im Bezug zur Lasche zeigt zwischen den Enden letzterer und in einem zweiten Abschnitt (19b) weitergeführt ist, der sich an das innere Ende des entsprechenden ersten Abschnitts (19a) anschließt und sich im allgemeinen längs zu der Lasche erstreckt auf die Befestigungslinie zu und an dieser endet, wobei der Abstand zwischen den beiden zweiten Abschnitten der L-förmigen Einschnitte größer ist als die Breite jedes Abschnitts des nicht-klebenden Teils, der zwischen den zweiten Abschnitten der Einschnitte liegt, so, daß die zwei L-förmigen Einschnitte an den abgelegenen Seiten der zweiten Abschnitte ein Paar im allgemeinen sich längs erstreckende Streifen oder Finger (16b) begrenzen, die jeweils integrale Vergrößerungen des einen Endbereichs der Lasche darstellen und damit die Befestigung der Lasche an der Oberseite des Behälters verstärken, und dadurch, daß die Lasche in sich weiterhin ein Paar Ausreißschutz-Löcher (20) aufweist, die auf der Befestigungslinie liegen und jeweils am Ende des jeweiligen zweiten Abschnitts (19b) der L-förmigen Einschnitte, wobei ein Ausreißen der Lasche über die Befestigungslinie hinaus und aus dem Behälter heraus wirksam verhindert wird.

2. Behälter nach Anspruch 1, weiterhin dadurch gekennzeichnet, daß der nicht-klebende Teil (24) in Zungenform direkt aus der Oberseite des Behälters (10) ausgestanzt ist, so daß ein Hauptkörper (24a), der einen größeren Teil der Öff-

nung und ein Zungenteil (24b), der einen kleineren Teil der Öffnung begrenzt, gegeben ist, wobei sich das Zungenteil im allgemeinen längs von dem Hauptkörper (24a) erstreckt und gegenüberliegende Seitenkanten aufweist, die im allgemeinen in gleicher Richtung wie die zweiten Abschnitte (19b) der L-förmigen Einschnitte verlaufen und an dem nicht-eingeschnittenen Ende des Zungenteils (24b) enden, entfernt vom Hauptkörper (24a) des nicht-klebenden Teils, wobei das nicht-eingeschnittene Ende des Zungenteils auf einer zweiten Befestigungslinie liegt, die im wesentlichen mit der erstgenannten Befestigungslinie der Lasche übereinstimmt, und dadurch, daß der nicht-klebende Teil (24) ein zweites Paar Einreißschutz-Löcher (26) aufweist, die in der Oberseite des Behälters gebildet sind und auf der zweiten Befestigungslinie, jeweils am Ende einer jeweiligen Seitenkante des Zungenteils des nicht-klebenden Teils, liegen, wobei das Einreißen des letzteren und des Behälters über die zweite Befestigungslinie hinaus wirksam verhindert wird.

3. Behälter nach Anspruch 2, weiterhin dadurch gekennzeichnet, daß das Zungenteil (24b) des nicht-klebenden Teils (24) schmaler als dessen Hauptkörper (24a) ist.

4. Behälter nach Anspruch 2, weiterhin dadurch gekennzeichnet, daß die Seitenkanten des Zungenteils (24b) des nicht-klebenden Teils (24) im allgemeinen parallel zu den zweiten Abschnitten (19b) der L-förmigen Einschnitte verlaufen.

5. Behälter nach Anspruch 4, weiterhin dadurch gekennzeichnet, daß das Zungenteil (24b) des nicht-klebenden Teils (24) schmaler als dessen Hauptkörper (24a) ist.

#### Revendications

1. Un récipient (10) comprenant une face avant comportant une ouverture (18) donnant accès au contenu du récipient et un dispositif d'étanchéité pouvant être refermé hermétiquement (14) sur l'ouverture, dans lequel le dispositif d'étanchéité comprend un volet de fermeture (16) plus grand que l'ouverture et est fixé sur la face avant du récipient, dans une zone d'extrémité (16a) du volet adjacente à une partie de la périphérie de l'ouverture, de manière à effectuer un mouvement d'articulation autour d'une ligne d'attache, entre le corps du volet et ladite zone d'extrémité de celui-ci, afin de pouvoir recouvrir l'ouverture, la face du volet susceptible de venir en contact avec la face avant du récipient étant revêtue d'un adhésif sensible à la pression (28), et dans lequel le dispositif d'étanchéité comprend en outre un élément non-adhésif (24) plus petit que le volet, mais ayant au moins la même forme et les mêmes dimensions que l'ouverture, l'élément non-adhésif étant fixé par collage sur la face revêtue du volet, dans une position sur celui-ci telle que l'élément recouvrira complètement l'ouverture quand le volet sera collé sur la face avant du récipient,

caractérisé en ce que le volet comprend une paire d'entailles opposées (19a, 19b), générale-

ment en forme de L, ménagées à l'intérieur, chacune d'elles partant de l'un des bords latéraux respectifs du volet, et comprenant une première partie (19a) s'étendant transversalement vers l'intérieur du volet, entre les extrémités de ce dernier, et se poursuivant par une seconde partie (19b) se prolongeant à partir de l'extrémité la plus à l'intérieur de la première partie respective (19a) et s'étendant généralement dans le sens longitudinal du volet en direction de la ligne d'attache et se terminant au niveau de celle-ci, les deux secondes parties des entailles en forme de L étant espacées l'une de l'autre d'une distance supérieure à la largeur d'une partie quelconque de l'élément non-adhésif située entre les secondes parties des entailles, en ce que les deux entailles en forme de L définissent, aux extrémités distales de leurs secondes parties, une paire de languettes ou de pattes (16b) s'étendant généralement dans une direction longitudinale, constituant des élargissements respectifs faisant partie intégrante de la zone d'extrémité du volet, de manière à favoriser l'ancrage du volet sur la face avant du récipient, et en ce que le volet comprend en outre une paire de trous antiarrachage (20) ménagés à l'intérieur, situés sur la ligne d'attache et chacun d'eux à l'extrémité de l'une des secondes parties correspondantes (19b) des entailles en forme de L, ce qui empêche ainsi effectivement l'arrachage du volet au-delà de la ligne d'attache et du récipient.

2. Un récipient selon la revendication 1, caractérisé en outre en ce que l'élément non-adhésif (24) est découpé à l'outil en forme de péninsule, directement à partir de la face avant du récipient (10) de manière à avoir une partie formant corps principal (24a) définissant une partie principale de l'ouverture et une partie formant languette (24b) définissant une partie secondaire de l'ouverture,

la partie formant languette s'étendant, d'une façon générale, longitudinalement à partir de la partie formant corps principal et possédant des bords latéraux opposés généralement de même direction par rapport aux secondes parties (19b) des entailles en forme de L et se terminant à l'extrémité non découpée de la partie formant languette (24b) éloignée de la partie formant corps principal (24a) de l'élément non-adhésif, ladite extrémité non découpée de la partie formant languette se trouvant sur une seconde ligne d'attache coïncidant sensiblement avec la ligne d'attache du volet citée en premier, et en ce que l'élément non-adhésif (24) comprend une seconde paire de trous anti-arrachage (26) ménagés dans la face avant du récipient et situés sur la seconde ligne d'attache, chacun d'eux à l'extrémité de l'un des bords latéraux respectifs de la partie formant languette de l'élément non-adhésif, de sorte que l'arrachage de cette dernière et de la face avant du récipient au-delà de la seconde ligne d'attache est efficacement empêché.

3. Un récipient selon la revendication 2, caractérisé en outre en ce que la partie formant languette (24b) de l'élément non-adhésif (24) est plus étroite que la partie formant corps principal (24a) de l'élément.

4. Un récipient selon la revendication 2, caractérisé en outre en ce que les bords latéraux de la partie formant languette (24b) de l'élément non-adhésif (24) sont généralement parallèles aux secondes parties (19b) des entailles en forme de L.

5. Un récipient selon la revendication 4, caractérisé en outre en ce que la partie formant languette (24b) de l'élément non-adhésif (24) est plus étroite que la partie principale formant corps (24a) de l'élément.

40

45

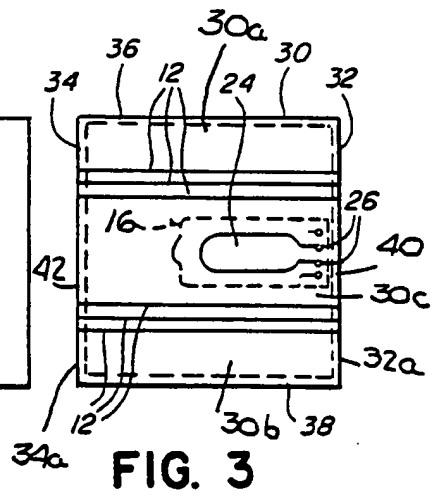
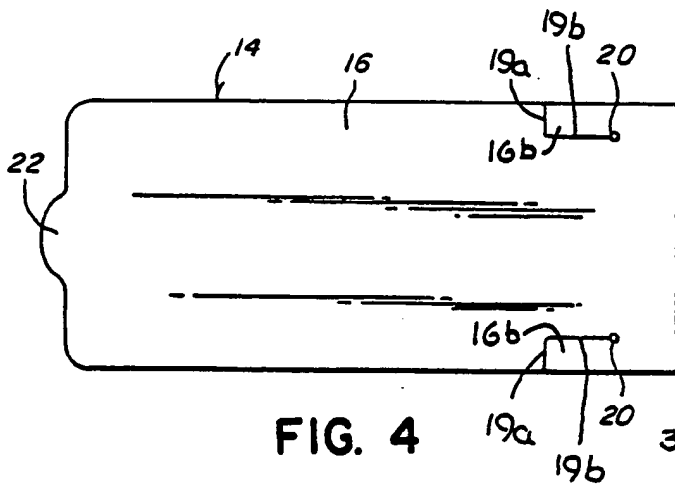
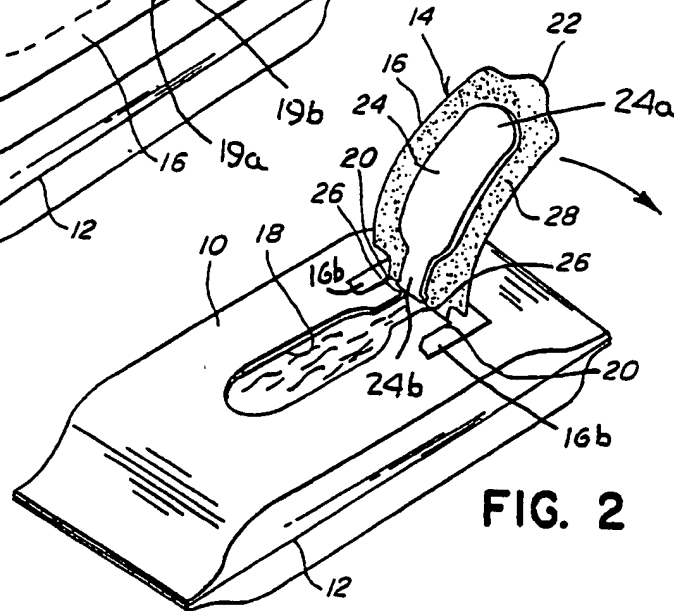
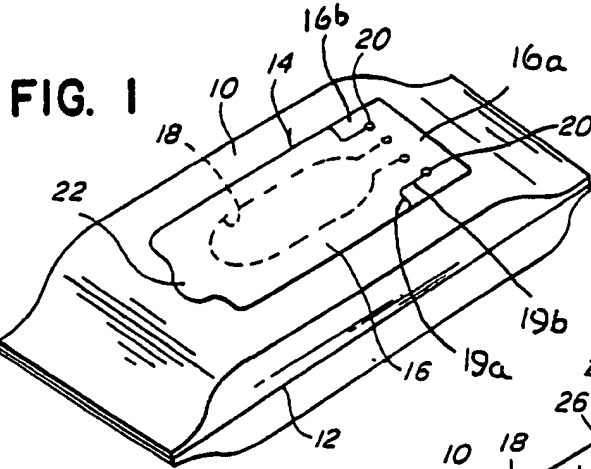
50

55

60

65

6



2